

WHAT IS CLAIMED IS:

1. A combination tuner comprising:

a first signal receiving unit for receiving a television signal and an FM signal using an externally connected antenna;

a second signal receiving unit for receiving an FM signal using an internal antenna;

a signal selecting unit for selecting reception signals of said first signal receiving unit and a reception signal of said second signal receiving unit;

a radio-frequency selecting and amplifying unit for selecting and amplifying the resulting reception signal;

a frequency converting unit for converting the amplified radio-frequency signal into an intermediate frequency signal;

an intermediate frequency selecting and amplifying unit for selecting and amplifying the intermediate frequency signal; and

a switching circuit for switching selection of the television signal or the FM signal according to three-mode band data,

wherein said switching circuit includes three transistors which are selectively turned on and off so that one of the television signal from said first signal receiving unit, the FM signal from said second signal receiving unit, and the FM signal from said first signal

receiving unit is selected according to the mode of the band data.

2. A combination tuner according to Claim 1, wherein said switching circuit includes a first transistor whose base is supplied with the band data, the first transistor being emitter-follower connected type one, a second transistor whose base is supplied with the band data, the second transistor being emitter-follower connected type one, and a third transistor whose base and emitter are supplied with the output of the first transistor and the output of the second transistor, respectively.

3. A combination tuner comprising:

a first signal receiving unit for receiving a television signal and an FM signal using an externally connected antenna;

a second signal receiving unit for receiving an FM signal using an internal antenna;

a signal selecting unit for selecting reception signals of said first signal receiving unit and a reception signal of said second signal receiving unit;

a radio-frequency selecting and amplifying unit for selecting and amplifying the resulting reception signal;

a frequency converting unit for converting the amplified radio-frequency signal into an intermediate frequency signal;

an intermediate frequency selecting and amplifying unit for selecting and amplifying the intermediate frequency signal; and

a switching circuit for switching selection of the television signal or the FM signal according to three-mode band data,

wherein said switching circuit includes three transistors which are selectively turned on and off so that one of the television signal from said first signal receiving unit, the FM signal from said second signal receiving unit, and the FM signal from said first signal receiving unit is selected according to the mode of the band data, and so that an automatic gain control voltage which is supplied to said radio-frequency selecting and amplifying unit is attenuated when the FM signal from said second signal receiving unit is selected.

4. A combination tuner according to Claim 3, wherein said switching circuit includes a first transistor whose base is supplied with the band data, the first transistor being emitter-follower connected type one, a second common-emitter transistor whose base is supplied with the band data and whose collector is supplied with the automatic gain control voltage via a resistor divider, and a third transistor whose base is supplied with a divided voltage of the automatic gain control voltage and whose emitter is supplied with the output of the first transistor.

5. A combination tuner according to Claim 1, wherein said radio-frequency selecting and amplifying unit includes an FM trap circuit, and the intermediate frequency selecting and amplifying unit includes an intermediate frequency bandwidth switching circuit and a gain setting circuit, in which:

when a television signal is selected, the FM trap circuit is active, the intermediate frequency bandwidth switching circuit is set at the intermediate frequency bandwidth of the television signal, and the gain setting circuit is set at a large gain; and

when an FM signal is selected, the FM trap circuit is inactive, the intermediate frequency bandwidth switching circuit is set at the intermediate frequency bandwidth of the FM signal, and the gain setting circuit is set at a low gain.

6. A combination tuner according to Claim 3, wherein said radio-frequency selecting and amplifying unit includes an FM trap circuit, and the intermediate frequency selecting and amplifying unit includes an intermediate frequency bandwidth switching circuit and a gain setting circuit, in which:

when a television signal is selected, the FM trap circuit is active, the intermediate frequency bandwidth switching circuit is set at the intermediate frequency

bandwidth of the television signal, and the gain setting circuit is set at a large gain; and

when an FM signal is selected, the FM trap circuit is inactive, the intermediate frequency bandwidth switching circuit is set at the intermediate frequency bandwidth of the FM signal, and the gain setting circuit is set at a low gain.

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